

**PROJECT WORK ON: FORMULATION AND EVALUATION OF
CURRY LEAVES FACEPACK FOR GLOWING SKIN****Shaikh Farhana* and Sachin Murmure**

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Aurangabad (Maharashtra).**1. INTRODUCTION**

- Cosmetics are commercially available products that are used to improve the appearance of the skin by action of cleansing, beautifying, promoting attractiveness.
- From the ancient time, different herbs are used for cleaning, beautifying and to manage them. Face skin is the major part of the body, which indicates the health of an individual. It consists of materials such as amino acids, lipids and carbohydrates etc.
- So that a balanced nutrition is required for the skin to keep it clear glossy and healthy. In ayurveda, the herbal paste is called as “mukha lepa” used for as a facial therapy. This herbal paste smeared on face to treat acne, pimple, scars, marks and pigments.
- Face pack is the smooth powder which is used for facial

application. These preparations are applied on the face in the form of liquid or pastes and allowed to dry and set to form film giving tightening, strengthening and cleansing effect to the skin. They are usually left on the skin for ten to 25 minutes to allow all the water to evaporate, the resulting film thus contracts and hardens and can easily be removed.

- The warmth and tightening effect produced by application of face pack produces the stimulating sensation of a rejuvenated face, while the colloidal and adsorption clays used in these preparations remove the dirt and grease from the skin of the face.
- Face packs are basically additives delivering some additional benefits. Different types of herbal face packs are used for different types of skin. Herbal face packs help to reduce wrinkles, pimples, acne and dark circles. It also increases the fairness and smoothness of skin. It also helps someone to boost their confidence. Ayurveda is the most useful and successful means for achieving this purpose.

- These packs are available in various types and forms and broadly classified into the following categories:
- Plastic masks: Wax based, latex based, or vinyl based.

1.1 Benefits of applying face pack

- ✓ Helps to reduce, acne, pimple, scars and marks depending on its herbal ingredients.
- ✓ Face pack usually remove dead cells of skin.
- ✓ These face pack provide a soothing and relaxing effect.
- ✓ Regular use of natural face pack bring glow to skin, improve skin texture and complexion.
- ✓ The harmful effects of pollution and harsh climates can be effectively combated with judicious use of face pack.
- ✓ They help to prevent premature aging of skin.
- ✓ Formation of wrinkles, fine lines and sagging of skin can be effectively controlled by using natural face masks.
- ✓ Natural face pack make the skin look young and health

1.2 Precautions to be taken while applying face pack

- ✓ Select the face pack according to your skin type.
- ✓ Take opinion of natural therapist or concerned skin expert before applying face pack.
- ✓ The face pack should not be left on face more than 15 to 20 minutes. Keeping for very long time may result in formation of wrinkles, sagging of skin and enlargement of open pores.
- ✓ Avoid applying face pack near “eye zone”. The skin around eye is very delicate.

1.3 Ideal characteristics of face pack

- ✓ It should be non-irritating and nontoxic.
- ✓ It should be stable both physically and chemically.
- ✓ It should be free from gritty particles.
- ✓ It should have pleasant odour.

1.4 Advantages

1. Externally applying curry leaves on the skin helps in skin regeneration.
2. It fights off free radicals in skin, leaving the skin supple and healthy. It also helps combat common skin issues like eczema, acne breakouts, bacterial infection and more.

3. It helps to get rid of unwanted blemishes and pimples.
4. Multani mitti absorbs excess oil and heals the skin.
5. Rose water is a natural toner, it will help to firm sagged skin.
6. Herbal face pack is used to rejuvenate the muscle, maintain the elasticity of the skin, it removes adhered dirt particles and improve the blood circulation.
7. The herbal face pack are nontoxic in nature, it supplies vital nourishments to the facial skin.

1.5 Disadvantages

1. Keeping the face pack for very long time may result in the formation of wrinkles and sagging of skin and enlargement of open pores.
2. Applying face pack frequently, can make the skin dry and itchy instead of making it healthy.
3. It may cause severe allergic reactions to the people with an allergy towards pollen.
4. It may show slower effect as compared to the other marketed chemical face packs and masks.

2. AIM AND OBJECTIVE

A. Aim

- ✓ The aim of this work is to formulate and evaluate curry leaves face pack for glowing skin by using other natural herbal ingredients.

B. Objective

- ✓ The purpose of this work is to discover properties of the curry leaves which can be used for glowing skin and to treat sunburn, acne.
- ✓ To drive the rejuvenating properties of the face pack which maintain the elasticity of skin, remove adhered dirt particles and improve the blood circulation.
- ✓ As due to increased pollution, allergy, microbes etc. human skin has become more sensitive and prone to faster ageing. An attempt has been made to synthesize a pack ideal for all skin type.

3. Literature review

1. Shanmuganathan S. 2015

- ✓ He studied Formulation & Evaluation of herbal face pack. Acne is the common disorder occurring due to the changes in the hormones such as androgens, corticosteroids. It is

mainly caused by the oil glands. Acne is the common disorder occurring due to the changes in the hormones such as androgens, corticosteroids. It is mainly caused by the oil glands. World J Pharm Pharm Sci 4(6): 585-588.

2. Mary P. Lupo.2001

- ✓ Antioxidants and Vitamins in Cosmetics. a variety of vitamins and antioxidants may also improve the health and quality of your skin. Here are a few of the most effective ones: Vitamins C and E .Clin Dermatol 2001; 19: 467– 473.

3. Sachin B. Somwanshi, 2017

- ✓ Formulation and evaluation of cosmetic herbal face pack for glowing skin which are used to stimulate blood circulation, and rejuvenates the skin and helps the skin to remain healthy. Int. J. Res. Ayurveda Pharm.;8 (Suppl 3): 199-203 <http://dx.doi.org/10.7897/2277-4343.083199>

4. Hwang JK, Shim JS, Gwon SH, Kwon YY, 2012

- ✓ Novel use of Panduratin derivatives or extract of Kaempferia pandurata comprising the same.U.S. Patent 0065272A1, [cited 2016 Aug 05].

5. Naresh G, Swetha P, Shilpa G.2013

- ✓ Formulation and Evaluation of Face Pack Containing Oats and Other Natural Ingredients like curry leaves, Multani mitti, lemon leaves, neem leaves, etc. Organoleptic evaluation shows that the pack is smooth and pleasant and smelling powder. Int J Chem Pharm Sci 2013; 1(1): 28-34

6. Michelle O'Sullivan 2016

- ✓ He gives turmeric as an effective homemade face pack ingredient to help open pores it reduces inflammation. Turmeric has antibacterial potential which reduces acne. Turmeric also have Antioxidant power, it reduces hyperpigmentation and skin irritation. Turmeric is best used in and for the wrinkle treatment., Nov 2016 [cited 2016 Dec 13].

Table no. 3: List of equipment.

Sr. no.	Equipment	Figure	Use
1	Beaker (500ml)		Used to handle the and measure the liquid ingredients
2	Electical Weighing Balance		To weigh all the ingredients and herbs.
3	Measuring Cylinder		To measure rose water
4	Stirrer		For stirring the formulation.
5	Mortar Pistle		For triturating the dried leaves

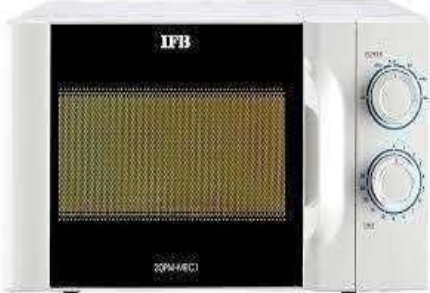
6	Sieve		Sieve no. 120 is used to finely grind the powder
7	Spatula		For handling the powdered herb
8	Microwave		Lemon leaves is dried in the microwave.

Table 2: List of ingredients.

Sr. no	Common name	Figure	Active constituents	Category
1.	Curry leaves		Elemol, candinenes, sabinene, allo-ocimene, geranyl acetate	Skin brightening, removes sunburn
2.	Lemon leaves		Limonene, geranial	Antiseptic, anti-inflammatory
3.	Sandalwood		Sesquiterpenoid compounds, santalols.	Anti-tanning, anti-ageing, toning.

4.	Multanimitti		Magnesium chloride, calcium bentonite	Anti-acne
5.	Aloe vera		Saponin, lignin, salicylic acid	Hydration
6.	Turmeric		Curcumin, demethoxycurcumin, bisdemethoxycurcumin	Anti- bacterial
7.	Rose water		Citronellol, geranion	Soothing, balances Ph of skin

4. Drug profile

- The details of the plant material used for the formulation of face pack are mentioned below;

1. Curry leaves (*Murraya koenigii*)



Figure 1: Curry leaves.

- ✓ Botanical Name – *Chalcas Koenigii*
- ✓ Synonyms - Karipatta, Mitha nim, Mitha neem.
- ✓ Plant Family – Rutaceae (Citrus Family)
- ✓ Main Constituents – Fresh leaves are rich in an essential oil.

- ✓ Used plant part – The leaves. A curry leaf is compound and consists of upto 20 leaflets arranged in pairs along the middle rib. For cooking purpose, the leaflets are usually torn from rib to facilitate eating.
- ✓ Origin – The curry tree is native to india; today, it is found wild or cultivated almost everywhere in the Indian subcontinent excluding the higher levels of the Himalayas.
- ❖ Curry leaves have antioxidants that fight the cell damaging free radicals.
- ❖ Curry leaves come packed with carbazole alkaloids, compounds that have antioxidant, antibacterial and anti- inflammatory properties.
- ❖ Curry leaves is good for heat boil, rashes and sunburn.
- ❖ The antimicrobial property presents in the curry leaves and the presence of vitamin A and vitaminC help make these herb great for the skin.

2. Lemon leaves (Citrus lemon)



Figure 2: Lemon leaves.

- ✓ Botanical Name – Lemon, citrus limon
- ✓ Synonyms – lemon tree, sweet lime, citrus, sweet lemon,
- ✓ Plant Family – Rutaceae
- ✓ Main Constituents – Limonene
- ✓ Used plant part – leaves, lemon fruit.
- ✓ Origin – North-western India
- ❖ Lemon leaves has antiseptic qualities, which may kill bacteria, that lead to acne.
- ❖ Reduce redness and inflammation that may help treat inflammatory acne as well as left over scars.
- ❖ Fresh lemon leaves with hot water can also reduce the effect of a migraine headache and asthma
- ❖ The benefits of lemon leaves can also be seen to prevent kidney stones. According to a

scientific study, citric acid can prevent the formation of kidney stones.

- ❖ The benefits of lemon leaves can also be for the treatment of asthma. Actually, the citric acid and alkaloids present in lemon leaves can reduce the problem of asthma somewhat.

3. Rose water (*Rosa damascena*)



Figure 3: Rose water.

- ✓ Botanical Name – *Rosa damascena*
 - ✓ Synonyms – attar of roses, eau de toilette, lavender water
 - ✓ Plant Family – Rosaceae
 - ✓ Main Constituents – geranion
 - ✓ Used plant part – Rose Petals
 - ✓ Origin – Iran
-
- ❖ Rose water have property to balance the pH of the skin.
 - ❖ It keep the skin free of extra oil and help prevent problems like blackheads, whiteheads.
 - ❖ Rose water has soothing property and can be used as an all-natural skin toner which is better than using chemical-based toner which might dry out the skin.
-
- ✓ **Rose water: Uses and Benefits**
 - ❖ Soothes skin irritation
 - ❖ Soothes sore throats
 - ❖ Reduces skin redness
 - ❖ Contains antioxidants
 - ❖ Heals cuts, scars and burns

4. Multani Mitti (Calcium bentonite)



Figure 4.1



Figure 4.2

- ✓ Botanical Name – Calcuim Bentonite
- ✓ Synonyms – whitening clay, bleaching clay.
- ✓ Main Constituents – magnesium chloride, calcium bentonite.
- ✓ Origin – India
- ❖ Multani mitti helps skin by different ways like diminishing pore sizes, removing blackheads and whiteheads, fading freckles, soothing sunburns, cleansing skin, improving blood circulation, complexion, reducing acne and blemishes.
- ❖ It gives a glowing effect to a skin as they contain healthy nutrients.
- ❖ Multani mitti is rich magnesium chloride
- ❖ Multani mitti or fuller's earth is used as a natural cleanser and astringent, offering a host of benefits for the skin, including
 1. Reducing oil
 2. Fighting acne
 3. Balancing and brightening skin tone
 4. Reducing pigmentation

5. Turmeric (Curcuma longa)



Figure 5: Turmeric.

- ✓ Botanical Name – *Curcuma longa*
 - ✓ Synonyms – *Curcuma domestica*, seasoning, flavourer
 - ✓ Plant Family – Zingiberaceae
 - ✓ Main Constituents – Curcumin
 - ✓ Used plant part – Root(rhizome)
 - ✓ Origin –Tropical South Asia
-
- ❖ Turmeric is mainly used to rejuvenate the skin.
 - ❖ It delays the signs of aging like wrinkles and also possesses other properties like antibacterial, antiseptic and anti-inflammatory.
 - ❖ It is best source of blood purifier.
 - ❖ It is effective in treatment of acne due to its antiseptic and antibacterial properties that fight pimples and breakouts to provide a youthful glow to your skin.
 - ❖ It also reduces the oil secretion by the sebaceous glands.

6. Aloe Vera (*Aloe barbadensis*)



Figure 6: Aloe vera.

- ✓ Botanical Name – *Aloe barbadensis*
 - ✓ Synonyms – *Aloe perfoliata* var. *Vera* L., Aloe
 - ✓ Plant Family – Asphodelaceae
 - ✓ Main Constituents – Saponin, Salicylic Acid
 - ✓ Used plant part – Leaf of aloe plant
 - ✓ Origin – china
-
- ❖ Aloe Vera is a great moisturizer intended for a skin.
 - ❖ Aloe Vera rejuvenates skin, hydrates and keeps skin layer looking fresh all the time.
 - ❖ Aloe Vera has anti-microbial property rendering it ideal to deal with acne and pimples.

- ❖ Aloe Vera powder contains several nutrients like glycerin, sodium palmate, sodium carbonate, sodium palm kemelate, sorbitol, etc.
- ❖ It accelerates wound healing and help to reduce blood sugar level
- ❖ It has antioxidant and antibacterial properties

7. Sandal wood (*Santalum alba*)



Figure 7.1

- ✓ Botanical Name – *Santalum alba*
 - ✓ Synonyms – chandan
 - ✓ Plant Family – Santalaceae
 - ✓ Main Constituents – Santalols
 - ✓ Used plant part – Tree and Roots of sandalwood
 - ✓ Origin – China, India, Indonesia
-
- ❖ Sandalwood has an anti-tanning and anti-aging property. It also helps skin in many ways like toning effect, emollient, antibacterial properties, cooling astringent property, soothing and healing property.
 - ❖ In traditional medicine, sandalwood oil has been used as an antiseptic and astringent, and for the treatment of headache, stomachache, and urinary and genital disorders.
 - ❖ In India, the essential oil, emulsion, or paste of sandalwood is used in the treatment of inflammatory and eruptive skin diseases.

5. Plan of work

The plan of work for the project work includes

1. Selection of herbs.
2. Extraction of herb.
3. Evaluation Tests and Some other points which are.

1. **Selection of research topic:** Formulation of Curry leaves face pack.
2. **Preliminary search for information:** Checking of availability of required chemicals from our sources.
3. **Making hypothesis:** Draw the positive and negative cause and effects of previous face pack.
4. **Locate material:** Use of all equipment, apparatus, and chemicals from GMCPLaboratories and uses of articles and books required from library.
5. **Data analysis:** Consult with guide to interpreting the collected data.
6. **Generalization and Interpretation:** Make sure that formulated hypothesis is possible for further product preparation.
7. **Report:** The product formulation preparation will represent in the form of report of 25 to 30 pages which summarize all the details of the formulated face pack.

1) Extraction of curry leaves

1) Selection of herbs

- As per World Health Organization (WHO), more than 60% of world population using plant-based medicine directly or indirectly.
- For this, it is very important to select right plant materials for development of herbal drug or a herbal cosmetic.
- Selection of plants can be done by;
 - ✓ Randomized selection.
 - ✓ Ecological selection.
 - ✓ Chemo systemic selection.
 - ✓ Ethnobotanical selection.

Herbs Procurement (Search of Herb)



Selection of Properties of Herb



Select the herb which has compatible properties for the chosen topic

Figure Flowchart of selection of herb.

2) Extraction of curry leaves

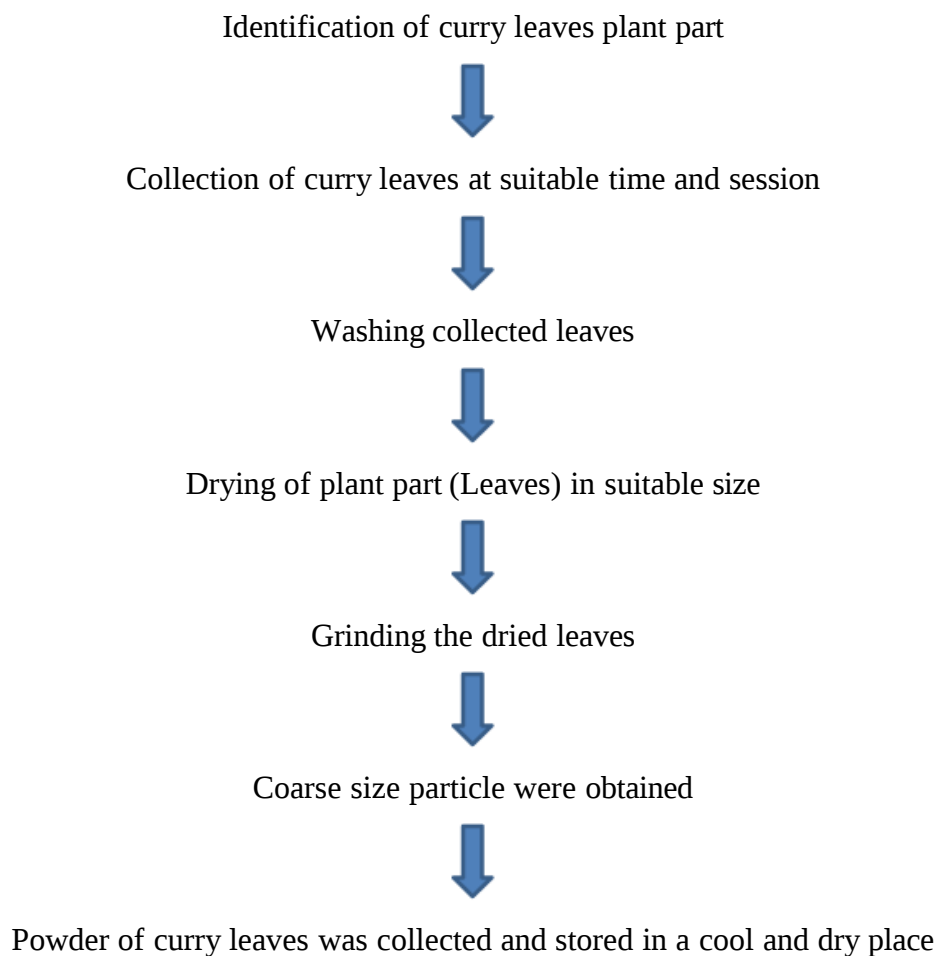


Figure Flowchart for extraction of curry leaves.

3) Evaluation tests

The evaluation test performed for the prepared formulation are as;

- Physical Appearance
- pH Test
- Spreadability
- Microbial contamination
- Stability
- Texture
- Smoothness
- Washability

Table 1: Composition of curry leaves face pack.

Sr. no.	Constituents	Scientific Name	Family	Quantity (gms)
1.	Curry leaves	Murraya koenigii	Rutaceae	25
2.	Lemon leaves	Citrus limon	Rutaceae	25
3.	Sandalwood	Santalum album	Santalaceae	20
4.	Multani mitti	Calcium bentonite	--	15
5.	Aloe Vera	Aloe barbadensis	Asphodelaceae	10
6.	Turmeric	Curcuma longa	Zingiberaceae	05
7.	Rose water	Rosa damascena	Rosacea	q.s

6. Procedure

Experimental work

1. Preparation of curry leaves powder

- Curry leaves of murraya koenigii collected from the local vendor.
 - The leaves were separated from the plants and kept for sun drying.
 - When leaves were dried then they were grinded into sterile grinder and sieved.
 - It was then stored in air tight sealed bags at RT.
- The accurate quantity of other ingredients were weighed as given in table no.1
 - The weighed ingredients were grounded into fine powder by using sieve no.120
 - All the ingredients were mixed uniformly by using rose water.

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5.	Aloe Vera	Aloe barbadensis	Asphodelaceae	10
6.	Turmeric	Curcuma longa	Zingiberaceae	05
7.	Rose water	Rosa damascena	Rosacea	q.s

**Figure Picture of Formulation (Facepack of curry leaves for glowing skin).**

7. RESULT AND DISCUSSION

The Formulation was found to be a good in physical parameters, free from skin irritation and maintained its consistency even after stressed storage conditions.

It is suggested that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standard cosmeceuticals formulation for skincare.

7.1 Physical parameters

The particle size was tested by microscopy method. The flow property of the dried powder of combined form was evaluated by performing Angle of Repose by funnel method, bulk density and tapped density by Tapping Method.

7.2 Morphological evaluation

Herbal face pack was evaluated for morphological parameters which includes Color, Odour, Texture as well as smoothness of the finished product.

7.3 Stability studies

Stability testing will be conducted by storing at different temperature condition for the Period of one month. The packed glass vials of formulations stored at different Temperature conditios like, room temperature and 400C and were evaluated for physical Parameters like color, odour, pH, consistency and feel.

7.4 Irritancy test

Mark an area (1sq.cm) on the left-hand dorsal surface. Definite quantities of prepared Face pack were applied to the specified area and time was noted. Irritancy, erythematic, Edema was checked if any for regular intervals up to 24 hrs and reported.

7.5 Phytochemical evaluation

The aqueous extract of the herbal face pack will be evaluated for the presence of different phyto-constituents as per the standard procedures.

7.6 Physicochemical evaluation

Physicochemical parameters can be determined, including the determination of Extractive value, ash value, pH and moisture content.

Table 5: Evaluation of formulation.

Sr. no.	Parameters	Observation
1	Appearance	Powder (Free flowing)
2	Odour	Slight yellow
3	Colour	Slight
4	Texture	Fine
5	Soothness	Smooth
6	Irritancy	No irritation
7	Stability	Stable at room temperature
8	Spreadability	Good
9	Washability	Gets washed off easily with water.

8. CONCLUSION

Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have growing demand in the world market. In the present scenario, people need cure for various skin problems without side effects. Herbal ingredients opened the way to formulate cosmetics without any harmful effect. Herbal face packs are used to stimulate blood circulation, rejuvenate the muscles and help to maintain the elasticity of the skin and remove dirt from skin pores. Herbal face packs are considered as sustaining and productive way to advance the appearance of skin. Thus, in the present work, It is a very good attempt to formulate the herbal face pack containing naturally available ingredients like curry leaves, multani mitti, turmeric, aloe vera, sandalwood. It is suggested that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standard cosmoceuticals formulation for skincare. It has been revealed that herbal face pack having enough potential to give efficient glowing effect on skin. The overall study is useful to substantiate product claims due its useful benefits on the human beings.

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